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Patent Search

Invention Title	DOMAIN-ADAPTIVE AUTOMATED GRADING FRAMEWORK FOR SHORT DESCRIPTIVE ANSWERS IN EDUCATION
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Inventor

Name	Address	Country
Sridevi Bonthu	Assistant Professor, Department of CSE, Vishnu Institute of Technology Vishnupur, Bhimavaram, Andhra Pradesh	India
Dr. S. Rama Sree	Prof. of CSE, Aditya Engineering College, Surampalem, Kakinada Dt. AP.	India
HAZARATH MURALI KRISHNA PRASAD MUNAGA	Prof of CSE, University College of Engineering Kakinada, JNTUK, Kakinada	India

Applicant

Name	Address	Country
Sridevi Bonthu	Assistant Professor, Department of CSE, Vishnu Institute of Technology Vishnupur, Bhimavaram, Andhra Pradesh	India

Abstract:

7. ABSTRACT The present invention discloses a domain-adapted automated short descriptive answer grading framework offers a comprehensive solution to the challenge faced by educators in grading free-form short descriptive answers across diverse educational domains. Leveraging educators' domain-specific knowledge and a limited set of data, the framework comprises a customizable grading model, a domain-adapted machine learning model, and a feedback loop for continuous improvement. By incorporating natural language processing techniques, the framework accurately analyzes student responses, assigns grades, and provides insightful feedback, thus streamlining the grading process and enhancing grading accuracy. The scalable and cost-effective nature of the framework ensures accessibility to educational institutions with varying resource availability. The framework's adaptability to different educational subjects and domains makes it a versatile tool for automated assessment. The figure associated with abstract is Fig. 1.

Complete Specification

Description:4. DESCRIPTION
 Technical Field of the Invention

The invention pertains to the field of educational technology and specifically addresses automated grading systems for short descriptive answers in educational settings. The system involves the integration of machine learning, natural language processing (NLP), and domain-specific knowledge to develop a flexible and adaptable framework capable of accurately assessing student responses across diverse educational domains.

Background of the Invention

In educational contexts, the process of grading short descriptive answers presents a myriad of challenges for educators. Existing solutions, including commercial learning management systems (LMS) and specialized educational software tools, often lack the necessary flexibility to adapt to the diverse array of educational domains and assessment formats. This limitation renders them ill-suited for grading short descriptive answers across a wide spectrum of subjects.

Moreover, while some products offer automated grading functionalities, they frequently offer limited customization options. This deficiency results in generic grading approaches that fail to adequately assess student learning outcomes. Additionally, many existing solutions are primarily geared towards structured assignments with predefined answers, thus struggling to accurately evaluate free-form short descriptive answers. These types of responses demand nuanced analysis of language context and meaning, which is often overlooked by traditional grading methods.

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